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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,149	12/15/2003	Michael H. Julius	32388-2038	2082

33721 7590 12/30/2005

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EXAMINER	
BELYAVSKYI, MICHAIL A	
ART UNIT	**PAPER NUMBER**
1644	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/734,149	JULIUS ET AL.	
	Examiner	Art Unit	
	Michail A. Belyavskyi	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-13,16,33,38-40,43-45,49-51,54-56,58-60 and 63-75* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-13,16,33,38-40,43-45,49-51,54-56,58-60 and 63-75* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

RESPONSE TO APPLICANT'S AMENDMENT

1. Applicant's amendment, filed 10/24/05 is acknowledged.

Claims 10-13, 16, 33, 38-40, 43-45, 49-51, 54-56, 58-60 and 63-75 are pending.

2. The specification stand objected to under 37 CFR 1.821(d) for failing to disclose SEQ ID NOS, for the amino acid sequence disclosed on page 28, line 1.

3. The specification on page 1, paragraph 1 should be amended to reflect the status of the parent 09/313177 application.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention *to which the claims are directed.*

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6 . Claims 10-13, 16, 33, 38-39, 43- 45, 49-50 and 54-56 , 58 63-66,69-70, 73 and 75 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention for the same reasons set forth in the previous mailed on 12/12/05. **This is a New Matter rejection**.

" wherein said polypeptide is encoded by a nucleotide sequence that has at least 62.6 % identity with SEQ ID NO:1 and that hybridizes thereto under high stringency conditions which include a wash step in 0.1 ssc,1%SDS at 65^0C for 3 hours" claimed in claim 16 represent(s) a departure from the specification and the claims as originally filed. The passages pointed by the applicant do not provide a clear support for "wherein said polypeptide is encoded by a nucleotide sequence

that has at least 62.6 % identity with SEQ ID NO:1 and that hybridizes thereto under high stringency conditions which include a wash step in 0.1 ssc,1%SDS at 65^{0}C for 3 hours" . The specification and the claims as originally field only support " a polypeptide having the amino acid sequence identified as SEQ ID NO: 4, SEQ ID NO:5 or SEQ ID NO:6, a conservatively substituted variant thereof, a fragment of said sequence or a conservatively substituted variant of said fragment which activates mammalian B cells".

It is noted that Applicant does not addressed that issue

7. Claims 10-13, 16, 33, 38-39, 43- 45, 49-50 and 54-56 , 58 63-66, 69-70, 73 and 75 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of activating B cell in a mammal comprising administering an antigen other than CD14 and a polypeptide, wherein said polypeptide has an amino acid sequence of SEQ ID NO:4 , SEQ ID NO:5 or SEQ ID NO: 6; or wherein said antigen and polypeptide of SEQ ID NO:4 , SEQ ID NO:5 or SEQ ID NO: 6 are conjugated to each other or provided in a kit does not reasonably provide enablement for: (i) a method of vaccinating a patient comprising administering an antigen other than CD14 and a polypeptide, wherein said polypeptide is encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with the full length of SEQ ID NO:1 and that hybridizes thereto under high stringency conditions, as claimed in claims 16 and 33; or (ii) wherein the polypeptide includes *any* conservative substituted variant of SEQ ID NO:4 , claimed in claims 38 –39; or (iii) wherein the antigen and the polypeptide, wherein said polypeptide is encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with SEQ ID NO:1, are conjugated to each other, claimed in claims 43 and 44; or (iv) wherein the antigen and the polypeptide, wherein said polypeptide includes *any* conservative substituted variant of SEQ ID NO:4 which activates mammalian B cells, are conjugated to each other claimed in claims 45, 49-50; or (v) further comprising a step of mixing the antigen and said polypeptide prior to administering claimed in claim 54, or (vi) wherein a polypeptide is recombinant or administering in combination with a pharmaceutical excipient, claimed in claims 55-56, or wherein the polypeptide or any variant thereof and a antigen are provided in a kit for the preparation of a vaccination claimed in claims 10-13 and 58-59, or (vii) wherein antigen and polypeptide mixing prior to the administering step, claimed in claims 63-66; or wherein administering step includes administering the polypeptide in combination with a pharmaceutical excipient as claimed in claims 69-70, 73 and 75.
The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The Specification disclosed that nucleotide sequence of SEQ ID NO: 1 encoded a bovine polypeptide of SEQ ID NO:4, that is a bovine CD14. The Specification also disclosed a human CD14 of SEQ ID NO:5 , which is encoded by nucleotide sequence of SEQ ID NO:2 and mouse CD14 of SEQ ID NO: 6, which is encoded by nucleotide sequence of SEQ ID NO: 3 (see

pages 12 and 13 and FIG. 6 and 7 in particular). The Specification disclosed studies wherein only said CD14 show a capacity to stimulate B cells in vivo(see overlapping pages 38-41 in particular).

Applicant has not taught how to make and/or use (i) a method of vaccinating a patient comprising administering an antigen other than CD14 and a polypeptide, wherein said polypeptide is encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with the full length of SEQ ID NO:1 and that hybridizes thereto under high stringency conditions, as claimed in claims 16 and 33; or (ii) wherein the polypeptide includes *any* conservative substituted variant of SEQ ID NO:4 , claimed in claims 38 –39; or (iii) wherein the antigen and the polypeptide, wherein said polypeptide is encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with SEQ ID NO:1, are conjugated to each other, claimed in claims 43 and 44; or (iv) wherein the antigen and the polypeptide, wherein said polypeptide includes *any* conservative substituted variant of SEQ ID NO:4 which activates mammalian B cells, are conjugated to each other claimed in claims 45, 49-50; or (v) further comprising a step of mixing the antigen and said polypeptide prior to administering claimed in claim 54, or (vi) wherein a polypeptide is recombinant or administering in combination with a pharmaceutical excipient, claimed in claims 55-56, or wherein the polypeptide or any variant thereof and a antigen are provided in a kit for the preparation of a vaccination claimed in claims 10-13 and 58-59, or (vii) wherein antigen and polypeptide mixing prior to the administering step, claimed in claims 63-66; or wherein administering step includes administering the polypeptide in combination with a pharmaceutical exciplent as claimed in claims 69-70, 73 and 75. The structural and functional characteristics of polypeptides encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with SEQ ID NO:1 , a conservatively substituted variant thereof a fragment of said sequences and a conservative substituted variant of said fragment which activates mammalian B cells are not defined in the specification and in the claim. Applicant has not exemplified any *in vitro or in vivo* studies or in animal models wherein *any* polypeptides encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with the full length of SEQ ID NO:1 , a conservatively substituted variant thereof can activate mammalian B cells.

Applicant has not provided sufficient biochemical information (e.g. structural characteristics, amino acid composition , physicochemical properties, etc) that distinctly identifies such polypeptides encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with SEQ ID NO:1 , a conservatively substituted variant thereof other than a bovine CD14 of SEQ ID NO:4, a human CD14 of SEQ ID NO:5 and mouse CD14 of SEQ ID NO: 6. While any "encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with SEQ ID NO:1 , or comprising a conservatively substituted variant thereof may have some notion to activate B cells, claiming biochemical molecules by such properties fails to provide sufficient guidance and direction as to how the skilled artisan can make such agents, commensurate in scope with the claimed invention.

Applicant is relying upon certain biological activities and the disclosure of a limited species to support an entire genus. It is well known that minor structural differences among even structurally related compounds or compositions can result in substantially different biology,

expression, and pharmacology of proteins. Therefore, structurally unrelated any polypeptide encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with full length of SEQ ID NO:1 , a conservatively substituted variant thereof, encompassed by the claimed invention other than a bovine CD14 of SEQ ID NO:4, a human CD14 of SEQ ID NO:5 and mouse CD14 of SEQ ID NO: 6. would be expected to have greater differences in their activities.

Whisstock et al (Quarterly Review of Biophysics, 2003, 36, pp307-340) teaches that prediction of protein function from sequence and structure is difficult problem, because homologous proteins often have different function. A fundamental problem is that function is in many cases an ill-defined concept (see Abstract in particular). Furthermore, the specification fails to teach what deletions, truncations, substitutions and mutations of the disclosed sequence can be tolerated that will allow the protein to function as claimed, i.e. to activate B cells. While it is known that many amino acid substitutions are possible in any given protein, the position within the protein's sequence where such amino acid substitutions can be made with reasonable expectation of success are limited. Certain positions in the sequence are critical to the three-dimensional structure/function relationship, and these regions can tolerate only conservative substitutions or no substitutions.

Attwood (Science 2000; 290:471-473) teaches that "[i]t is presumptuous to make functional assignments merely on the basis of some degree of similarity between sequences. Similarly, Skolnick et al. (Trends in Biotech. 2000; 18(1):34-39) teach that the skilled artisan is well aware that assigning functional activities for any particular protein or protein family based upon sequence homology is inaccurate, in part because of the multifunctional nature of proteins (e.g., "Abstract" and "Sequence-based approaches to function prediction", page 34). Moreover, Whisstock et al (Quarterly Review of Biophysics, 2003, 36, pp307-340) teaches that prediction of protein function from sequence and structure is difficult problem, because homologous proteins often have different function. A fundamental problem is that function is in many cases an ill-defined concept (see Abstract in particular). Even in situations where there is some confidence of a similar overall structure between two proteins, only experimental research can confirm the artisan's best guess as to the function of the structurally related protein (see in particular "Abstract" and Box 2). Finally, even single amino acid differences can result in drastically altered functions between two proteins. For example, Metzler et al. (Nature Structural Biol. 1997; 4:527-531) show that any of a variety of single amino acid changes can alter or abolish the ability of CTLA4 to interact with its ligands CD80 and CD86 (e.g., summarized in Table 2). Thus it is unpredictable if any functional activity will be shared by two polypeptides having less than 100% identity over the full length of their sequences.

In view of this unpredictability the skilled artisan would not reasonably expect a polypeptide encoded by a nucleotide sequence having anything less than 100% identity *over the full length of SEQ ID NO:1* to *share the same function* as the polypeptide encoded by a nucleotide sequence of SEQ ID NO:1.

B. Similarly, the fact that two nucleic acid sequences will hybridize under moderate or stringent conditions does not in and of itself require that the two sequences share any functional activity. Thus the same observations apply to the recitation of "nucleotide that hybridizing under stringent condition", claimed in claim 16 as were noted above with respect to "percent identity" language. Further, it was well known in the art at the time the invention was made that hybridization could occur between two sequence based upon short stretches of 100% identity. Thus a great deal of sequence variability *with respect to the full-length nucleic acid* is possible and in the absence of a clear recitation that the identity is over the full length of SEQ ID NO:1, the claim reads on subsequences and would be viewed by the skilled artisan as been even less likely to encode a polypeptide with the same function as polypeptide encoded by SEQ ID NO:4.

C. Also, at issue is whether or not the claimed *any* antigen other than CD14 and *any* polypeptide, wherein said polypeptides encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with the full length of SEQ ID NO:1 , a conservatively substituted variant thereof would function as vaccine. In view of the absence of a specific and detailed description in Applicant's specification of how to effectively use vaccine as claimed, and absence of working examples providing evidence which is reasonably predictive that the claimed vaccine are effective for in vivo use, and the lack of predictability in the art at the time the invention was made, an undue amount of experimentation would be required to practice the claimed pharmaceutical composition/vaccine with a reasonable expectation of success. The claims are drawn to a method of vaccinating a mammals. By definition, a vaccine is a composition to induce a specific immunity that **prevent** or protect against a specific disease caused by a specific agent. One of the criteria for a vaccine is the levels of antibody (humoral immune response) before and after immunization and the success of vaccination is judged by the extent of increase in the level of antigen - specific antibody. The second criterion for a vaccine is the ability to stimulate memory T lymphocytes (cell-mediated immune response) (See Immunobiology, Third Edition, Chapter 13 in particular). The specification provides no information on the immunogenicity of *any* antigen other than CD14 and *any* polypeptide, wherein said polypeptides encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with the full length of SEQ ID NO:1 , a conservatively substituted variant thereof or the ability of such to protect or prevent from any antigen-specific disease. The specification fails to teach that the vaccine comprising *any* antigen other than CD14 and *any* polypeptide, wherein said polypeptides encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with the full length of SEQ ID NO:1 , a conservatively substituted variant thereof are capable of generating an antibody response. The specification also fails to teach that the antibody response to the claimed *any* antigen other than CD14 and *any* polypeptide, wherein said polypeptides encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with the full length of SEQ ID NO:1 , a conservatively substituted variant thereof provides for a protection against infection. Vaccines by definition trigger an immunoprotective response in the host vaccinated and mere antigenic response is insufficient. It is well recognized in the vaccine art, that it is unclear whether an antigen(s) derived from a pathogen will elicit protective immunity. Ellis, R.W. (Chapter 29 of "VACCINES" [Plotkin, S.A. et al. (eds) published by W. B. Saunders company (Philadelphia) in 1988, especially page 571, 2nd full paragraph] exemplifies this problem in the recitation that "The key to the problem (of vaccine development) is the

identification of that protein component of a virus or microbial pathogen that itself can elicit the production of protective antibodies.... and thus protect the host against attack by the pathogen". Moreover, Chandrasheker et al., (US Patent 6,248,329) teach that although many investigators have tried to develop vaccines based on specific antigens, it is well understood that the ability of an antigen to stimulate antibody production does not necessary correlate with the ability of the antigen to stimulate an immune response capable of protecting an animal from specific disease, associated with said antigen (see column 1, lines 35-45 in particular). Ezzell (NIH Research, 1995, Vol.7, pages 46-49) reviews the current thinking in cancer vaccines and states that tumor immunologists are reluctant to place bets on which cancer vaccine approach will prove effective in the long run (see entire document, particularly the last paragraph). It is well known in the art that tumor cells in vivo simply do not display their unique antigens in ways that are easily recognized by cytotoxic T lymphocytes (Ezzell; page 48, column 2, paragraph 2). Furthermore, no one is very optimistic that a single peptide or a virus carrying the gene encoding that peptide will trigger an immune response strong enough to eradicate tumors or even to prevent the later growth of micrometastases among patients whose tumors have been surgically removed or killed by radiation or chemotherapy (Ezzell; page 48, paragraph 6).

Thus, Applicant has not provided sufficient guidance to enable one skill in the art to use claimed (i) a method of vaccinating a patient comprising administering an antigen other than CD14 and a polypeptide, wherein said polypeptide is encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with the full length of SEQ ID NO:1 and that hybridizes thereto under high stringency conditions, as claimed in claims 16 and 33; or (ii) wherein the polypeptide includes *any* conservative substituted variant of SEQ ID NO:4 , claimed in claims 38 –39; or (iii) wherein the antigen and the polypeptide, wherein said polypeptide is encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with SEQ ID NO:1, are conjugated to each other, claimed in claims 43 and 44; or (iv) wherein the antigen and the polypeptide, wherein said polypeptide includes *any* conservative substituted variant of SEQ ID NO:4 which activates mammalian B cells, are conjugated to each other claimed in claims 45, 49-50; or (v) further comprising a step of mixing the antigen and said polypeptide prior to administering claimed in claim 54, or (vi) wherein a polypeptide is recombinant or administering in combination with a pharmaceutical excipient, claimed in claims 55-56, or wherein the polypeptide or any variant thereof and a antigen are provided in a kit for the preparation of a vaccination claimed in claims 10-13 and 58-59, or (vii) wherein antigen and polypeptide mixing prior to the administering step, claimed in claims 63-66; or wherein administering step includes administering the polypeptide in combination with a pharmaceutical exciplent as claimed in claims 69-70, 73 and 75 in manner reasonably correlated with the scope of the claims. The scope of the claims must bear a reasonable correlation with the scope of enablement. *In re Fisher*, 166 USPQ 18(CCPA 1970) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute.

In view of the quantity of experimentation necessary, the unpredictability of the art, the lack of sufficient guidance in the specification, the limited working examples, and the limited amount of

direction provided given the breadth of the claims, it would take undue trials and errors to practice the claimed invention.

8. Claims 10-13, 16, 33, 38-39, 43- 45, 49-50 and 54-56 , 58 63-66, 69-70, 73 and 75 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention for the same reasons set forth in the previous mailed on 12/12/05 .

Applicant is in possession of : a method of activating B cells in a mammal comprising administering an antigen other than CD14 and a polypeptide, wherein said polypeptide has an amino acid sequence of SEQ ID NO:4 , SEQ ID NO:5 or SEQ ID NO: 6; or wherein said antigen and polypeptide of SEQ ID NO:4 , SEQ ID NO:5 or SEQ ID NO: 6 are conjugated to each other or provided in a kit for preparation of a vaccination.

Applicant is not in possession of : (i) a method of vaccinating a patient comprising administering an antigen other than CD14 and a polypeptide, wherein said polypeptide is encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with the full length of SEQ ID NO:1 and that hybridizes thereto under high stringency conditions, as claimed in claims 16 and 33; or (ii) wherein the polypeptide includes *any* conservative substituted variant of SEQ ID NO:4 , claimed in claims 38 –39; or (iii) wherein the antigen and the polypeptide, wherein said polypeptide is encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with SEQ ID NO:1, are conjugated to each other, claimed in claims 43 and 44; or (iv) wherein the antigen and the polypeptide, wherein said polypeptide includes *any* conservative substituted variant of SEQ ID NO:4 which activates mammalian B cells, are conjugated to each other claimed in claims 45, 49-50; or (v) further comprising a step of mixing the antigen and said polypeptide prior to administering claimed in claim 54, or (vi) wherein a polypeptide is recombinant or administering in combination with a pharmaceutical excipient, claimed in claims 55-56, or wherein the polypeptide or any variant thereof and a antigen are provided in a kit for the preparation of a vaccination claimed in claims 10-13 and 58-59, or (vii) wherein antigen and polypeptide mixing prior to the administering step, claimed in claims 63-66; or wherein administering step includes administering the polypeptide in combination with a pharmaceutical exciplent as claimed in claims 69-70, 73 and 75.

The claimed invention is drawn to a method of vaccination comprising administering antigen other than CD14 and a genus of polypeptide encoded by a nucleotide sequence that has at least 62.6 % identity with SEQ ID NO:1. The genus of encompasses peptides wherein such peptides have numerous differences in amino acid sequences. There is no evidence that there is any *per se* structure/function relationship between the disclosed a bovine CD14 of SEQ ID NO:4, a human CD14 of SEQ ID NO:5 and mouse CD14 of SEQ ID NO: 6, and any others that might be found using the claimed method. The specification does not disclosed and

exemplified any polypeptide, wherein said polypeptide is encoded by a nucleotide sequence that has at least 62.6 % or 74.2 % identity with SEQ ID NO:1 and that hybridizes thereto under high stringency conditions, or includes *any* conservative substituted variant of SEQ ID NO:4 , SEQ ID NO:5 and SEQ ID NO: 6 , or comprising any fragment of said sequences or any conservatively substituted variant of said fragment which activates mammalian B cells and thus can be used in the method of vaccinating a patient.

Applicant has disclosed a limited number of species; therefore, the skilled artisan cannot envision all the contemplated amino acid sequence possibilities recited in the instant claims. Consequently, conception in either case cannot be achieved until a representative description of the structural and functional properties of the claimed invention has occurred, regardless of the complexity or simplicity of the method. Adequate written description requires more than a mere statement that it is part of the invention. The sequences themselves are required. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (CAFC 1993). A description of what a material does (i.e. activates B cells) rather than of what it is, usually does not suffice. The patent does not more than describe the desired function of the compound called for and contains no information by which a person of ordinary skill in the art would understand that the inventors possessed the claimed invention. At best, it simply indicates that one should run tests on a wide spectrum of compounds in the hope that at least one of them will work. Inadequate written description that merely identifies a plan to accomplish an intended result "is an attempt to preempt the future before it has arrived" *Fiers v. Revel*, 984 F.2d 1164,1171 9Fed.Cir. 1993).

A description of a genus of polypeptide sequences may be achieved by means of a recitation of a representative number of polypeptide sequences, defined by amino acid sequence, falling within the scope of the genus, or of a recitation of structural features common to the genus, which features constitute a substantial portion of the genus. Regents of the University of California v. Eli Lilly&Co., 119F3d 1559, 1569, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997).

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the written description inquiry, whatever is now claimed." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116.). Consequently, Applicant was not in possession of the instant claimed invention. See University of California v. Eli Lilly and Co. 43 USPQ2d 1398.

Applicant is directed to the Revised Guidelines for the Examination of Patent Applications Under the 35 U.S.C.112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No.4, pages 1099-1111, Friday January 5, 2001.

9. No claim is allowed

10. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michail Belyavskyi whose telephone number is 571/ 272-0840 The examiner can normally be reached Monday through Friday from 9:00 AM to 5:30 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on 571/ 272-0841 .

The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michail Belyavskyi, Ph.D.
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December 27, 2005